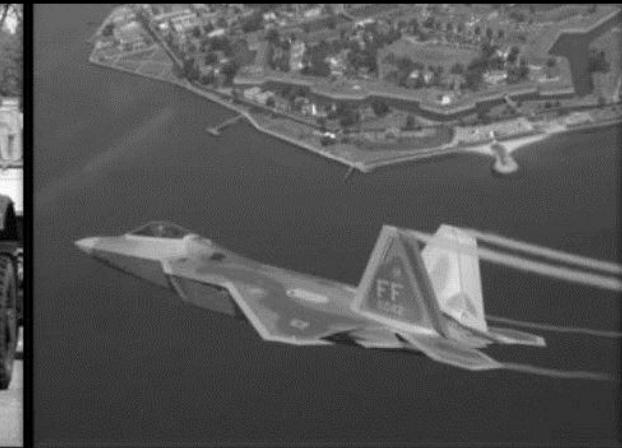




DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY



**Assuring Essential
Industrial Base
Requirements for
Strategic & Critical
Materials**

May 23, 2012

Report Documentation Page			<i>Form Approved OMB No. 0704-0188</i>	
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1. REPORT DATE 23 MAY 2012	2. REPORT TYPE	3. DATES COVERED 00-00-2012 to 00-00-2012		
4. TITLE AND SUBTITLE Assuring Essential Industrial Base Requirements for Strategic & Critical Materials				
5a. CONTRACT NUMBER				
5b. GRANT NUMBER				
5c. PROGRAM ELEMENT NUMBER				
6. AUTHOR(S)				
5d. PROJECT NUMBER				
5e. TASK NUMBER				
5f. WORK UNIT NUMBER				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Defense Logistics Agency, Strategic Materials, 8725 John J Kingman Road, Ste 3229, Fort Belvoir, VA, 22060-6223				
8. PERFORMING ORGANIZATION REPORT NUMBER				
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				
10. SPONSOR/MONITOR'S ACRONYM(S)				
11. SPONSOR/MONITOR'S REPORT NUMBER(S)				
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited				
13. SUPPLEMENTARY NOTES Presented at the NDIA Environment, Energy Security & Sustainability (E2S2) Symposium & Exhibition held 21-24 May 2012 in New Orleans, LA.				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 17
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	19a. NAME OF RESPONSIBLE PERSON	



Bottom Line Up Front

- Global demand for scarce raw materials continues to be a factor as a result of industrial surges in China, India, Russia, Brazil, and other developing countries.
- The U.S. must employ a new, integrated and responsive strategy for identifying and ensuring an adequate supply of strategic and critical materials required by our industrial base for U.S. security needs.



DLA Strategic Materials

- A part of Defense Logistics Agency
- Operational component of the National Defense Stockpile (NDS)
- NDS was established after WWI to reduce the United States dependence on foreign sources of supply during national emergencies





Review of Current Stockpile

- National Defense Stockpile (NDS) History
 - NDS Program established in 1939
 - Purpose: to preclude dependence on foreign sources of supply in time of national emergency.
- Reviews of U.S. stockpiling strategies began in 2006
 - A working group was convened in Jan. 2008 by Deputy Undersecretary of Defense for Industrial Policy.
 - Working group included representation from each of the military services, Department of Defense (DoD) Joint Staff, Department of Commerce, U.S. Geological Survey, and Defense Contract Management Agency.
 - **Conclusion: Stockpile Should Be Reconfigured!**



Reconfiguration Under Way

- Reconfiguration Report submitted to Congress, April 2009.
- Initiatives being implemented and/or considered are:
 - Reconfigure the NDS into the Strategic Materials Security Program
 - Grant the SMSP broad programmatic flexibility
 - Modify the current policy to dispose of materials in the NDS
 - Enhance the acquisition authority to employ risk mitigation strategies
- House Armed Services Committee hearing held in July 2009.
- Implementation plan was submitted and accepted in 2010.



What is DLA Strategic Materials doing?

- Moving from traditional stockpiling to acquisition support and commodity/specialty metal expertise.
- Performing commodity/specialty metal risk assessments and developing risk mitigation strategies.
- Assessing global marketplace and analyzing geopolitical issues for impact on availability of materials.
- Continuing to collect data and market intelligence
 - On individual elements and on downstream manufacturing into metals, alloys, and semi-fabricated products.
- Establishing relationships with key military material experts.
- Consolidating DoD material requirements.
- Focus on Strategic & Critical Material solutions.



Section 843 of Public Law 111-383

FY 2011 National Defense Authorization Act

- Issue: Supply and demand for rare earth materials in defense applications.
- The legislation required the Secretary of Defense to:
 - Submit a comprehensive assessment of DoD uses of rare earths
 - Conduct an analysis of any DoD vulnerabilities to disruptions of rare earth supplies and products
 - Develop a plan that would assure such rare earth supplies and products for the DoD by 2015.
- Department sent report to Congress in March 2012.
- A focal point for information is being established within the Department
 - Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy (MIBP)



Section 853 of Public Law 112-81

FY 2012 National Defense Authorization Act

- Issue: Feasibility and advisability of establishing an inventory of rare earth materials to ensure long-term availability of rare earth materials
- The Act requires:
 - The Administrator of the DLA Strategic Materials to submit to the Secretary of Defense an assessment of the issue
 - A Report to Congress on planned Secretary of Defense actions, e.g., plans, strategies, policies, regulations, resourcing or recommendations.
- A focal point for information is being established within the Department
 - Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy (MIBP)



Section 1080, House Conference Report 112-329 FY 2012 National Defense Authorization Act

- Issue: Feasibility and desirability of recycling, recovering, and reprocessing rare earth elements, including fluorescent lighting in DoD facilities, batteries, and neodymium iron boron magnets used in weapon systems and commercial off-the-shelf items such as computer hard drives
- The Act requires Secretary of Defense to prepare a report on a DoD recycling program for rare earth materials
- DLA Strategic Materials will conduct research and provide info to DoD by August 2012
- A focal point for information is being established within the Department
 - Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy (MIBP)



Beryllium Upgrade

- Converting inventory of Beryllium Hot Pressed Powder (HPP) to metal powders
- Actions planned to substantially improve readiness:
 - Conversion from HPP for use by most domestic manufacturers that produce beryllium containing products
 - Timeline: Begin Fall 2012 and continue for at approx 5 years
 - Metal powders will be returned to DLA Strategic Materials and stored at DLA-operated storage facilities
- Current inventory of Vacuum Cast Beryllium will be held for Department of Energy (DOE) applications
 - This form is acceptable for DOE applications and will not be included in the conversion project.



Germanium Upgrade

- Upgrading 3,000 kg of germanium metal ingots to epitaxial-ready wafers for use by National Security Space programs
- Wafers will be vendor managed because they have 3 year shelf lives and need to be rotated
- Project eliminates reliance on foreign processing of this material currently required before it can be used in domestic production processes



Rhenium Upgrade

- We are reviewing an Air Force pilot project to reclaim rhenium containing super alloys from jet engines
- Viewed as a method to offset substantial reliance on foreign sources of supply for this material
- Process involves:
 - Demilitarization of expended engines
 - Reclaiming the alloys
 - Salvaging non-strategic materials recovered from the engines
- Non-strategic materials go to contractor to offset the costs of reclaiming the alloys
- Recovered strategic materials would be candidates for National Defense Stockpile inventory



TCB/TATB Upgrade

- Materials used by DOE and DoD to produce In insensitive High Explosives (IHE)
 - TCB is the chemical pre-cursor required to manufacture IHE products
 - TCB is manufactured in India and China so we are 100% reliant on foreign sources of supply
 - England and Germany produce TATB and IHE products for DoD until those producers terminated operations in 2009
 - Since 2010, primary source is residual supplies and recovered materials
- DLA plan:
 - Secure a buffer inventory of TCB this year
 - Upgrade TCB to TATB and 5 variants of IHE molding powders in FY13/14
 - Long term solution – stockpile TATB and IHE molding powders in quantities that would support sustained operations if TCB supplies are depleted



Cadmium Zinc Tellurium (CZT) Upgrade

- CZT substrates are used to produce the heat detecting components in military satellites
- Substrates currently come from a single supplier in Japan
- The March 2011 tsunami drew attention to the heavy reliance DoD has on a single, foreign source of supply
- DoD is developing a Title III project to fund a domestic producer to manufacture these substrates, but that will not be in place until late FY15
- DLA plan:
 - Secure a buffer inventory of CZT substrates in late FY12 and hold it through FY15
 - Disburse the buffer inventory if the Title III project is successful
 - Add it to the Stockpile if Title III project is unsuccessful



Lithium Ion Batteries

- National Security Space (NSS) platform managers are in the process of proving Lithium Ion batteries for space and other applications
- The process takes 5 to 7 years for the various vehicles
- NSS batteries are non-standard technology so sources of supply for the pre-cursor materials are not emerging
- The Air Force has funded a plant in California to produce the pre-cursor materials and some of the batteries, but needs a reliable reserve
- DLA plan is to add the three pre-cursor materials to the National Defense Stockpile over a 4 year period starting in FY14



QUESTIONS?

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